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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/754,029	01/08/2004	Jong-Kwon Kim	5000-1-497	6088
33942	7590	10/04/2007		
CHA & REITER, LLC 210 ROUTE 4 EAST STE 103 PARAMUS, NJ 07652			EXAMINER TRAN, DZUNG D	
			ART UNIT 2613	PAPER NUMBER
			MAIL DATE 10/04/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/754,029

Applicant(s)

KIM ET AL.

Examiner

Dzung D. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 10-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 04/23/2007.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

1. Applicant's election of species 2, claims 10-18 in the reply filed on 07/13/2007 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marom US Patent no. 6,950,609 in view of Chae et al. US Publication no. 2005/0068649.

Regarding claim 10, Marom discloses in Figure 7, an optical add/drop multiplexer connected to an optical fiber for transmission of a multiplexed optical signal, comprising:

a wavelength division multiplexing/demultiplexing (WDM) unit 730 connected to the optical fiber 720 having input and output ports providing a path for a multiplexed optical signal, and a plurality of demultiplexing ports (740-1, 740-2, ..., 740-k) respectively providing paths for demultiplexed channels; and

a plurality of add/drop multiplexer (ADM) units 741-1, 741-2, ..., 741-k (e.g., add/drop units that connect to respectively connected to demultiplexing ports 740-1, 740-2, ..., 740-k of the WDM unit. Marom differs from claim 10 of the present invention in that he does not specifically disclose each of the ADM units including a circulator adapted to output a channel, input to a higher-order port, to a lower-order port, and a reflector connected between two ports of the circulator, and adapted to pass or reflect a channel input thereto, wherein the circulator receives a channel at a second port, outputs the channel to a third port connected to the reflector, receives the channel from the reflector at the third port, and outputs the channel to a fourth port thereof, thereby dropping the channel. Chae discloses an ADM unit including a circulator OC 208 adapted to output a channel, input to a higher-order port, to a lower-order port, and a reflector 224 FBG, and adapted to pass or reflect a channel input thereto, wherein the circulator receives a channel at port 3, outputs the channel to port 6 connected to the reflector 224, receives the channel from the reflector 224 at port 6, and outputs the channel to port 7 thereof, thereby dropping the channel. It would have been obvious to an artisan at the time of the invention was made to include the multiple port circulator taught by Chae in the ADM of Maron. One of ordinary skill in the art would have been motivated to do that in order to add or drop a specific wavelength in the optical communication system.

Regarding claim 11, Marom discloses in Figure 7, wherein the WDM unit comprises:

an end circulator 715 having first through third ports and adapted to output an optical signal, input to a higher-order port, to a lower-order port, the first and third ports of the end circulator connected to the optical fiber 750, 710 for transmission of the multiplexed optical signal; and

a wavelength division multiplexer/demultiplexer (WDM) 730 having a multiplexing port connected to the second port of the end circulator and providing a path 720 for a multiplexed optical signal, and a plurality of demultiplexing ports 740-1, 740-2, ..., 740-k respectively providing paths for demultiplexed channels.

Regarding claim 12, Examiner take an official notice that wavelength division multiplexer/demultiplexer (WDM) comprises an arrayed waveguide grating is well recognized in the art.

Regarding claims 13 and 16, Marom discloses in Figure 7, an optical add/drop multiplexer connected to an optical fiber for transmission of a multiplexed optical signal, comprising:

a wavelength division multiplexing/demultiplexing (WDM) unit 730 connected to the optical fiber 720 having input and output ports providing a path for a multiplexed optical signal, and a plurality of demultiplexing ports (740-1, 740-2, ..., 740-k) respectively providing paths for demultiplexed channels; and

a plurality of add/drop multiplexer (ADM) units (e.g., add/drop units that connect to respectively connected to demultiplexing ports 740-1, 740-2, ..., 740-k of the WDM unit. Marom differs from claim 10 of the present invention in that he does not specifically disclose each of the ADM units including a circulator adapted to output a

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channel, input to a higher-order port, to a lower-order port, and a reflector connected between two ports of the circulator, and adapted to pass or reflect a channel input thereto, wherein the circulator also receives a channel at a fifth port, outputs the channel to a first port connected to the reflector, and receives the channel from the reflector at the first port, thereby adding the channel. Chae discloses an ADM unit 30 including a circulator OC 208 adapted to output a channel, input to a higher-order port, to a lower-order port, and a reflector 224, and adapted to pass or reflect a channel input thereto, wherein the circulator 224 also receives a channel at port 1, outputs the channel to a first port 2 connected to the reflector 36, and receives the channel from the reflector 224 at the first port 2, thereby adding the channel.

It would have been obvious to an artisan at the time of the invention was made to include the multiple port circulator taught by Chae in the ADM of Maron. One of ordinary skill in the art would have been motivated to do that in order to add or drop a specific wavelength in the optical communication system.

Regarding claims 14 and 17, Marom discloses in Figure 7, wherein the WDM unit comprises:

- an end circulator 715 having first through third ports and adapted to output an optical signal, input to a higher-order port, to a lower-order port, the first and third ports of the end circulator connected to the optical fiber 750, 710 for transmission of the multiplexed optical signal; and

- a wavelength division multiplexer/demultiplexer (WDM) 730 having a multiplexing port connected to the second port of the end circulator and providing a path 720 for a

multiplexed optical signal, and a plurality of demultiplexing ports 740-1, 740-2, ..., 740-k respectively providing paths for demultiplexed channels.

Regarding claims 15 and 18, Examiner take an official notice that wavelength division multiplexer/demultiplexer (WDM) comprises an arrayed waveguide grating is well recognized in the art.

### ***Response to Arguments***

4. Applicant's arguments with respect to claims 10-18 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dzung D Tran whose telephone number is (571) 272-3025. The examiner can normally be reached on 9:00 AM - 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dzung Tran  
09/23/2007

  
DZUNG TRAN  
PRIMARY PATENT EXAMINER